

## ABSTRACT

The invention relates to a method for purifying coke waste water that is charged with nitrogen compounds, cyanides and sulfides. According to the inventive method, the coke waste water passes through a reactor (3) that is integrated into a liquid cycle (2) and that comprises at least one gas-permeable membrane tube (5) whose interior is impinged upon by an oxygenous pressurized gas (4). On the exterior of the membrane tube (5) which is immersed in the liquid, a biofilm (6) is maintained in whose inner region (7) rich in oxygen due to the gas-permeability of the membrane tube (5) nitrogenous compounds are selectively nitrified to nitrates while at the same time nitrates are denitrified to elemental nitrogen in an oxygen-poor outer region (8) of the biofilm (6).